AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (currently amended): An in-vehicle load drive-control circuit comprising:

a power MOSFET connected in series between a load and a power source, the power MOSFET on/off controlling the power supply to the load, said power MOSFET incorporating a thermoelectric element across which a voltage drop occurs as a result of heat liberation when the power MOSFET is energized; and

a control means for ON/OFF controlling a gate driving signal to said power MOSFET on the basis of the voltage drop,

wherein after the voltage has been stabilized, the gate driving signal is made constant, [[and]]

wherein said thermoelectric element is electrically insulated from a source electrode of said power MOSFET, and

wherein said power MOSFET is configured as a vertical DMOS structure consisting of a MOSFET and a diode, serving as a thermoelectric element, which are formed monolithically.

Claim 2 (original): An in-vehicle load drive-controlling circuit according to claim 1, wherein said control means comprises a rush current detecting unit for detecting a rush current to the load on the basis of a time changing rate of the voltage drop to produce an interrupting signal for the gate driving signal to the power MOSFET.

Claim 3 (previously presented): An in-vehicle load drive-controlling circuit according to claim 2, wherein the control means comprises an abnormal current detecting unit for deciding an excess current resulting from poor wiring when the number of times of detecting the rush current by said rush current detecting unit is more than a prescribed number to produce an interrupting signal for the gate driving signal to the power MOSFET.

Claim 4 (original): An in-vehicle load drive-controlling circuit according to claim 2, wherein the rush current detecting unit produces the gate driving signal at intervals while a load current is suppressed to less than a prescribed current after the voltage across the thermoelectric element has dropped to a prescribed voltage to repeat an ON/OFF operation of the power MOSFET so that the voltage is increased by a certain degree by heat dissipation of the power MOSFET.

Claim 5 (previously presented): An in-vehicle load drive-controlling circuit according to claim 2, wherein the rush current detecting unit produces the gate driving signal at intervals

while a load current is suppressed to less than a prescribed current after the voltage across the thermoelectric element has dropped to a prescribed voltage to repeat an ON/OFF operation of the power MOSFET, and ON/OFF operation of energization of a load is repeated so that heat liberation of the load is stabilized to make resistance constant.

Claim 6 (original): An in-vehicle load drive-controlling circuit according to claim 1, wherein the control unit comprises an overheat detecting unit for detecting overheat abnormality of the power MOSFET when said voltage drops to produce an interrupting signal for the gate driving signal.

Claim 7 (original): An in-vehicle load drive-controlling circuit according to claim 6, wherein the overheat detecting unit decides restoration of the overheat abnormality of the power MOSFET when the voltage rises, thereby producing the gate driving signal.

Claim 8 (original): An in-vehicle load drive-controlling circuit according to claim 1, wherein the thermoelectric element is a diode whose forward voltage increases with an increase in an ambient temperature.

Claim 9 (previously presented): An in-vehicle load drive-controlling circuit according to claim 1, further comprising a plurality of power MOSFETs for driving a plurality of loads,

respectively, and said control unit supplies gate driving signals at slight intervals over time to the gates of these MOSFETs.

Claim 10 (original): An in-vehicle load drive-controlling circuit according to claim 1, wherein said control unit supplies the gate driving signal based on a PWM signal to the power MOSFET.